

Topic: Matter and energy transformations



Project 2061 Instructional Analysis of Biology Textbooks

Instructional Categories

	Biology Miller · Levine Prentice Hall	Biology: A Community Context South-Western Educational Publishing	Biology: Principles & Explorations Holt, Rinehart and Winston	Biology: The Dynamics of Life Glencoe, McGraw-Hill	Biology: Visualizing Life Holt, Rinehart and Winston	BSCS Biology: A Human Approach Kendall Hunt	BSCS Biology: An Ecological Approach Kendall Hunt	Heath Biology D.C. Heath and Company	Insights in Biology Kendall Hunt	Modern Biology Holt, Rinehart and Winston
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I. PROVIDING A SENSE OF PURPOSE

Conveying unit purpose	■	■	■	■	■	■	■	■	■	■
Conveying lesson purpose	■	■	■	■	■	■	■	■	■	■
Justifying lesson sequence	■	■	■	■	■	■	■	■	■	■

II. TAKING ACCOUNT OF STUDENT IDEAS

Attending to prerequisite knowledge and skills	■	■	■	■	■	■	■	■	■	■
Alerting teacher to commonly held student ideas	■	■	■	■	■	■	■	■	■	■
Assisting teacher in identifying own students' ideas	■	■	■	■	■	■	■	■	■	■
Addressing commonly held ideas	■	■	■	■	■	■	■	■	■	■

III. ENGAGING STUDENTS WITH RELEVANT PHENOMENA

Providing variety of phenomena	■	■	■	■	■	■	■	■	■	■
Providing vivid experiences	■	■	■	■	■	■	■	■	■	■

IV. DEVELOPING AND USING SCIENTIFIC IDEAS

Introducing terms meaningfully	■	■	■	■	■	■	■	■	■	■
Representing ideas effectively	■	■	■	■	■	■	■	■	■	■
Demonstrating use of knowledge	■	■	■	■	■	■	■	■	■	■
Providing practice	■	■	■	■	■	■	■	■	■	■

V. PROMOTING STUDENT THINKING ABOUT PHENOMENA, EXPERIENCES, AND KNOWLEDGE

Encouraging students to explain their ideas	■	■	■	■	■	■	■	■	■	■
Guiding student interpretation and reasoning	■	■	■	■	■	■	■	■	■	■
Encouraging students to reflect on their own learning	■	■	■	■	■	■	■	■	■	■

VI. ASSESSING PROGRESS

Aligning assessment to goals	■	■	■	■	■	■	■	N/A	■	■
Testing for understanding	■	■	■	■	■	■	■	N/A	■	■
Using assessment to inform instruction	■	■	■	■	■	■	■	N/A	■	■

■ = Excellent (3); ■ = Good (2.5-2.9); ■ = Satisfactory (2-2.4); ■ = Fair (1.5-1.9); ■ = Poor (0-1.4)